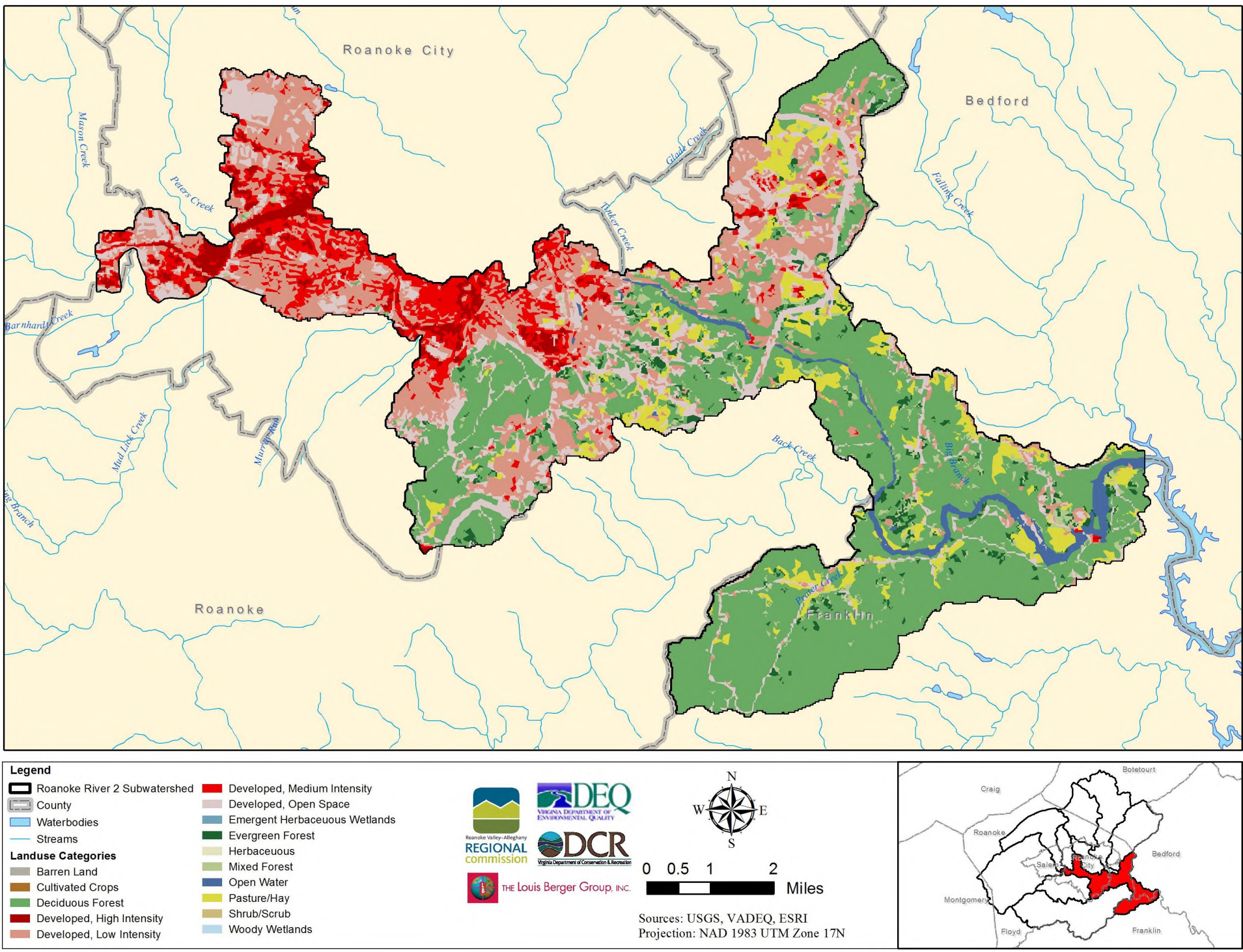
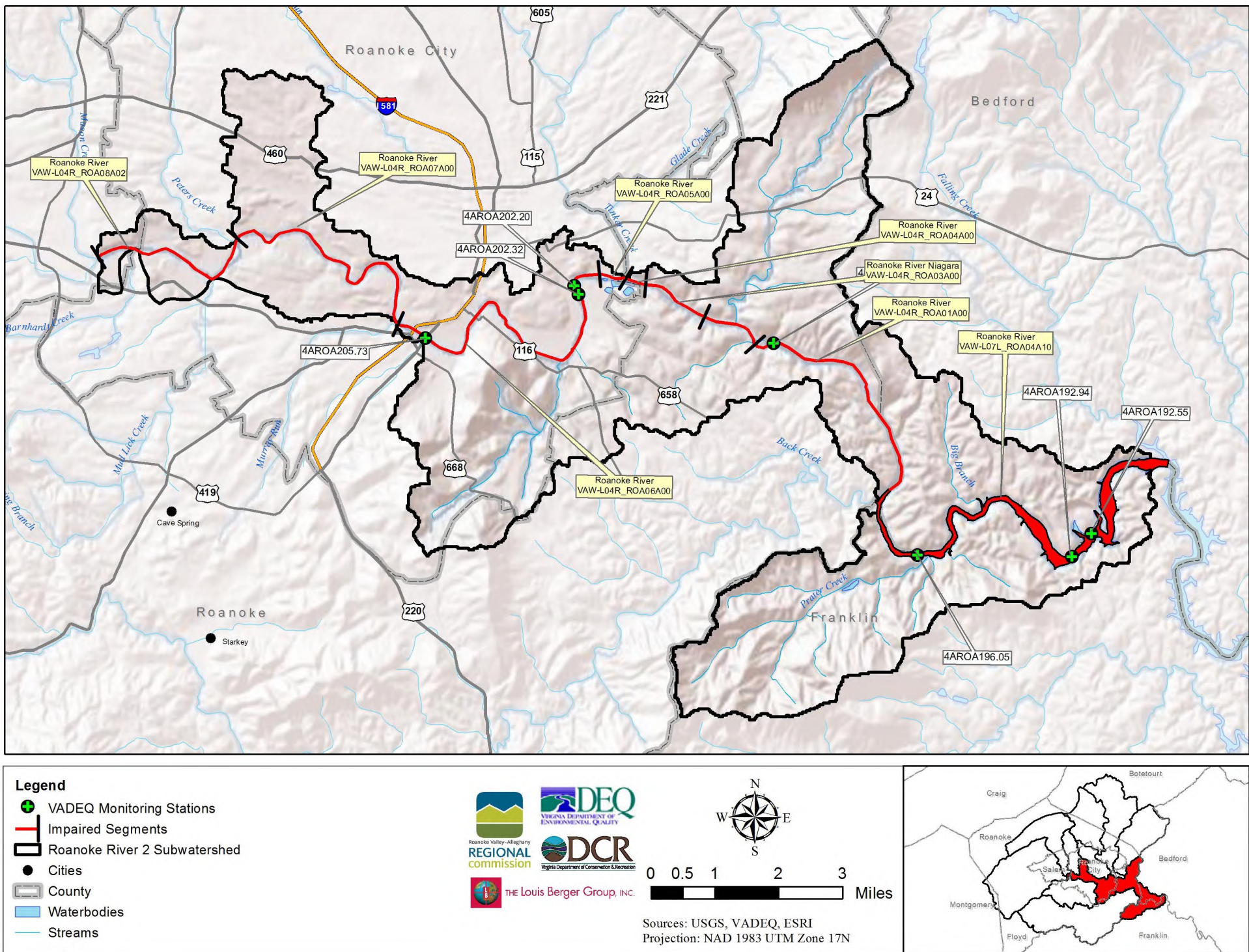




# Roanoke River 2 Subwatershed - Bacteria



## Impairment Summary

Assessment Unit	Stream Name	Length (miles)	Boundaries	Cause
VAW-L07L_ROA04A10	Smith Mtn. Lake (Roanoke River)	350 (acres)	Roanoke River from the Back Creek confluence downstream to the mouth of Falling Creek.	Escherichia coli
VAW-L04R_ROA01A00	Roanoke River	3.14	Roanoke River mainstem waters from Niagara Dam downstream to the mouth of Back Creek (PWS section 6i).	Escherichia coli
VAW-L04R_ROA02A00	Roanoke River Niagara	0.78	These are the Roanoke River mainstem impounded waters of the Niagara Dam (PWS section 6i).	Escherichia coli
VAW-L04R_ROA03A00	Roanoke River Niagara	0.87	Roanoke River mainstem from near the backwaters of the Niagara Impoundment upstream to the end of the WQS designated public water supply (PWS section 6i) segment. The upstream ending of the PWS segment from SML 795 ft. pool elevation.	Escherichia coli
VAW-L04R_ROA04A00	Roanoke River	0.25	Roanoke R. mainstem from near the backwaters of Niagara Impoundment upstream to the Tinker Creek confluence on the Roanoke River (section 6). The upstream ending of the WQS designated public water supply (PWS) segment from SML 795 ft. pool elevation.	Escherichia coli
VAW-L04R_ROA05A00	Roanoke River	0.35	Roanoke River mainstem from the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant downstream to the Tinker Creek confluence (WQS section 6).	Escherichia coli
VAW-L04R_ROA06A00	Roanoke River	4.34	Roanoke River mainstem from the Murray Run mouth downstream to the Western Virginia Water Authority Roanoke Regional Water Pollution Control Plant.	Escherichia coli
VAW-L04R_ROA07A00	Roanoke River	3.32	Roanoke River mainstem from the Peters Creek mouth downstream to the Murray Run confluence on the Roanoke River.	Escherichia coli
VAW-L04R_ROA08A02	Roanoke River	2.22	Roanoke River mainstem from the Mason Creek mouth downstream to the confluence of Peters Creek on the Roanoke River.	Escherichia coli

## Land Use Distribution (NLCD 2006)

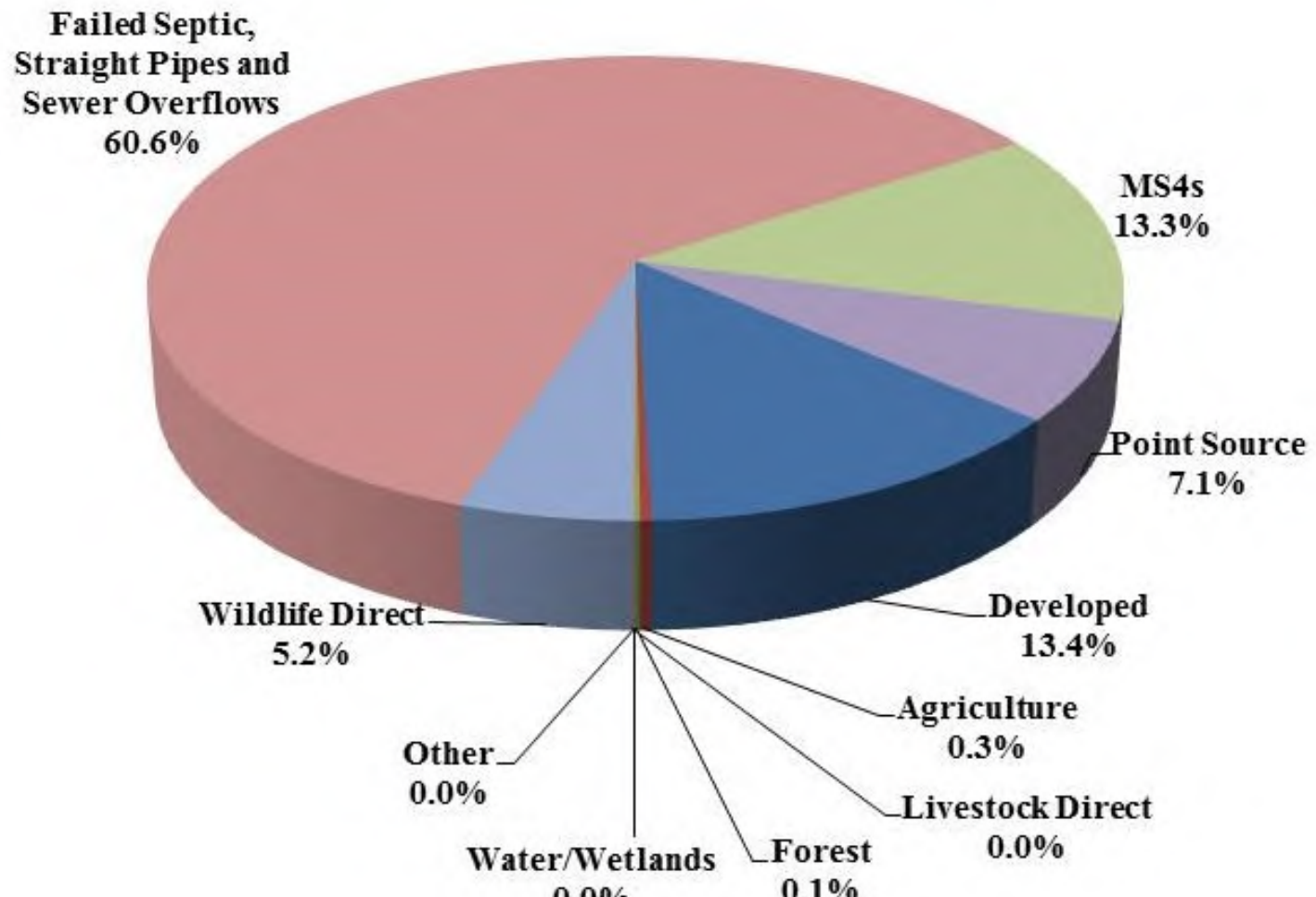
Land Use Category	Area	
	Acres	Percent
Developed	9,865.8	44.7%
Agriculture	1,465.5	6.6%
Forest	10,225.4	46.4%
Water/Wetlands	495.3	2.2%
Other	3.0	0.0%
<b>Total</b>	<b>22,054.9</b>	<b>100.0%</b>

## Existing and Allocated Bacteria Loads

Land Use/Source	Total Annual <i>E. coli</i> Loads (billion coliform forming units/year)*		Percent Reduction (%)
	Existing Load	Allocation Load	
Land Based Non-point			
Developed	206,672	1,860	99.1%
Agriculture	5,242	157	97.0%
Forest	2,164	65	97.0%
Water/Wetlands	2	2	0.0%
Other	0.36	0.01	97.0%
Direct Non-point			
Livestock Direct	504	0	100.0%
Wildlife Direct	80,099	27,234	66.0%
Failed Septic, Straight Pipes and Sewer Overflows	933,270	0	100.0%
Point Source	108,886	108,886	0.0%
MS4s	227,618	2,066	99.1%
Total	1,564,458	140,271	91.0%

\*The Existing and Allocated Loads reflect the loads for the entire watershed upstream of the outlet

## Existing Bacteria Load Distribution



## Existing Best Management Practices Agricultural and Stormwater

Agricultural Best Management Practice	Count	Area Treated	Streamlength Protected (ft)
Small Grain cover crop for Nutrient Management	2	15.9	N/A

Stormwater Best Management Practice	Count	Reported Area Treated* (acres)
Bioretention	4	No Data
Detention Basin	40	756.3
Extended Detention Basin	2	32.2
Infiltration	4	No Data
Manufactured Unit	2	0.6
Sediment Forebay	1	28.5
Retention Pond	1	5.6
Underground Detention Basin	10	3.7

\*Not all Best Management Practices reported area treated

The municipalities are in the process of creating Best Management Practices inventories, so not all Best Management Practices present in the watershed may be reported.

## Potential Implementation Actions to Reduce Bacteria

- Septic System Repair/Replacement
- Existing Best Management Practice Retrofits
- Low Impact Development Stormwater Controls
- Riparian Buffer Creation/Expansion
- Pet Waste Disposal and Education Programs